

OVERVIEW OF FINAL AMENDMENTS TO AIR REGULATIONS FOR THE OIL AND NATURAL GAS INDUSTRY

FACT SHEET

OVERVIEW OF ACTION

- On April 17, 2012, the U.S. Environmental Protection Agency (EPA) issued cost-effective regulations to reduce harmful air pollution from the oil and natural gas industry while allowing continued, responsible growth in U.S. oil and natural gas production.
- The final rules include the first federal air standards for natural gas wells that are hydraulically fractured, along with requirements for several other sources of pollution in the oil and gas industry that currently are not regulated at the federal level. The rules for fractured gas wells rely on proven, cost-effective technology and practices that industry leaders are using today at about half of the fractured natural gas wells in the U.S.
- EPA extensively sought comment on the proposed rules, which the agency was required to review under the Clean Air Act. Today's final action includes a number of changes made in response to those comments. The final rules provide flexibility for industry to ensure equipment is available to capture natural gas in time to meet compliance deadlines, while maintaining the environmental benefits from the proposal. The rules also include incentives for industry to modernize equipment and reduce pollution early, and changes to reporting requirements to strengthen accountability.
- A key component of the final rules is expected to yield a nearly 95 percent reduction in VOCs emitted from more than 11,000 new hydraulically fractured gas wells each year. This significant reduction would be accomplished primarily through the use of a proven process – known as a “reduced emissions completion” or “green completion” -- to capture natural gas that currently escapes to the air.
- In a green completion, special equipment separates gas and liquid hydrocarbons from the flowback that comes from the well as it is being prepared for production. The gas and hydrocarbons can then be treated and used or sold, avoiding the waste of natural resources that cannot be renewed.
- The estimated revenues from selling the gas that currently goes to waste are expected to offset the costs of compliance, while significantly reducing pollution from this expanding industry. EPA's analysis of the rules shows a cost savings of \$11 to \$19 million when the rules are fully implemented in 2015.
- Some states, such as Wyoming and Colorado, require green completions, as do some cities,

including Fort Worth and Southlake, Texas. In addition, data provided to EPA's Natural Gas STAR program show that a number of companies are using green completions voluntarily. Today's rule builds on the emission reductions these leaders have taken, leveling the playing field across the industry and ensuring this smart environmental and business practice is used in all states where gas wells are fractured.

POLLUTION REDUCTION, CONTINUED NATURAL GAS PRODUCTION

- The VOC emission reductions from wells, combined with reductions from storage tanks and other equipment, are expected to help reduce ground-level ozone in areas where oil and gas production occurs. In addition, the reductions would yield a significant environmental co-benefit by reducing methane emissions from new and modified wells. Methane, the primary constituent of natural gas, is a potent greenhouse gas – more than 20 times as potent as carbon dioxide when emitted directly to the atmosphere. Oil and natural gas production and processing accounts for nearly 40 percent of all U.S. methane emissions, making the industry the nation's single largest methane source.
- Today's final rules also would protect against potential cancer risks from emissions of several air toxics, including benzene.
- EPA estimates the following combined annual emission reductions when the rules are fully implemented :
 - VOCs: 190,000 to 290,000 tons;
 - Air Toxics: 12,000 to 20,000 tons; and
 - Methane 1.0 to 1.7 million short tons [about 19 to 33 million tonnes of CO₂ equivalent (CO₂e)]
- Today's action continues EPA's efforts to support responsible oil and natural gas exploration and production that protect public health and the environment. In 2011, for example, the Agency signed a memorandum of understanding with the departments of Interior and Agriculture establishing a common process for the agencies to follow in analyzing the potential air quality impacts of proposed oil and gas activities on federally managed public lands. The collaborative approach in the agreement will provide increased certainty, clarity and transparency about requirements on public lands.
- To learn more about specific requirements of today's rules visit:
www.epa.gov/airquality/oilandgas

COSTS AND BENEFITS

- Today's cost-effective rules will yield significant reductions in air pollution while offsetting the costs to industry. EPA estimates the combined rules will yield a cost savings of \$11 to \$19 million in 2015, because the value of natural gas and condensate that will be recovered and sold will offset costs.

- The VOCs and air toxics reductions in the rules are expected to improve outdoor air quality, protect against cancer risk from air toxics emissions and reduce health effects associated with exposure to ground-level ozone (smog). Exposure to ozone is linked to increased asthma attacks, hospital admissions and emergency room visits, and premature death. EPA was unable to model health benefit estimates for the rule, due to uncertainties about future locations of oil and gas emissions. Air quality changes associated with air toxics and VOC reductions can be highly localized.
- Today's rules also would yield significant reductions in methane, a potent greenhouse gas. EPA's Regulatory Impact Analysis for the rule estimates the value of the climate co-benefits that would result from this reduction at \$440 million annually by 2015. This includes the value of climate-related benefits such as avoided health impacts, crop damage and damage to coastal properties.

AIR EMISSIONS FROM OIL AND GAS PRODUCTION IN THE U.S.

- In 2009, about 1.1 million wells were producing oil and natural gas in the United States. The wells are located in many areas of the country, including both urban and rural areas.
- The majority of new gas wells drilled today use a process known as hydraulic fracturing or "fracking." In this process, a mixture of water, chemicals and a "proppant" (usually sand) is pumped into a well at extremely high pressures to fracture rock and allow natural gas to escape. An estimated 11,400 new wells are fractured each year; EPA estimates another 1,400 existing wells are re-fractured to stimulate production or to produce natural gas from a different production zone.
- The gas these wells produce goes to gathering and boosting stations that take it to processing plants. These plants remove contaminants to make the gas ready for the pipelines that deliver it to commercial, industrial and residential customers. Transmission compression stations help move the gas through 1.5 million miles of natural gas pipelines across the United States.
- The oil and gas industry is a significant source of VOCs, which contribute to the formation of ground-level ozone (smog). Data provided to EPA's Natural Gas STAR Program show that some of the largest air emissions in the natural gas industry occur as natural gas wells that have been fractured are being prepared for production. During a stage of well completion known as "flowback," fracturing fluids, water, and reservoir gas come to the surface at a high velocity and volume. This mixture includes a high volume of VOCs and methane, along with air toxics such as benzene, ethylbenzene and n-hexane. The typical flowback process lasts from three to 10 days. Pollution also is emitted from other processes and equipment in the industry that prepare gas for sale and that assist in moving it through pipelines.

BACKGROUND

- Today's final action will cut emissions of smog-forming volatile organic compound (VOC) emissions and air toxics from several segments of the oil and gas industry. The final rules are the result of the review of four air regulations for the oil and natural gas industry required by the Clean Air Act: a new source performance standard for VOCs; a new source performance standard for sulfur dioxide; an air toxics standard for major sources of oil and natural gas production; and an air toxics standard for major sources of natural gas transmission and storage.
- The Clean Air Act requires EPA to set new source performance standards (NSPS) for industrial categories that cause, or significantly contribute to, air pollution that may endanger public health or welfare. EPA is required to review these standards every eight years. The existing NSPS – for VOCs and SO₂ – were issued in 1985.
- EPA also must set standards for emissions of air toxics, also called hazardous air pollutants. Air toxics are pollutants known or suspected of causing cancer and other serious health effects. EPA must review and conduct a residual risk review of these standards once time, eight years after the standard issued. The agency must conduct technology reviews of these standards every eight years.
- EPA's existing air toxics standards for oil and natural gas production, and the standards for natural gas transmission and storage were issued in 1999.

Litigation

- In January 2009, WildEarth Guardians and the San Juan Citizens Alliance sued EPA, alleging that the Agency had failed to review the new source performance standards and the major source air toxic standards for the oil and natural gas industry.
- In February 2010, the U.S. District Court for the District of Columbia issued a consent decree that requires EPA to take actions related to the review of these standards. EPA issued the proposed rule July 28, 2011. The consent decree, which was recently revised, required that EPA take final action by April 17, 2012.

Public comment

- EPA held two public meetings as it was developing the rules and three public hearings on the proposal. The agency received more than 156,000 comments on the proposal.
- EPA's Natural Gas STAR program has been working with U.S. oil and gas companies since 1993 to adopt proven, cost-effective technologies and practices that improve operational efficiency and reduce methane emissions. Many Gas STAR partners already are using the green completions that EPA is now requiring across the industry. For more information on EPA's Natural Gas STAR program, visit <http://www.epa.gov/gasstar/index.html>

- Additional information about hydraulic fracturing and EPA's work is available at <http://www.epa.gov/hydraulicfracture/>

FOR MORE INFORMATION ABOUT TODAY'S ACTION:

- The rule and other background information are posted at <http://www.epa.gov/airquality/oilandgas>. Information also is available at EPA's electronic public docket and comment system (<http://www.regulations.gov>.) using Docket ID Number EPA-HQ-OAR-2010-0505.
- The rule and materials also are available in hard copy at the EPA Docket Center's Public Reading Room, room 3334 in the EPA West Building, located at 1301 Constitution Avenue, NW, Washington, DC. Hours of operation are 8:30 a.m. to 4:30 p.m. eastern time, Monday through Friday, excluding federal holidays.
- Visitors are required to show photographic identification, pass through a metal detector, and sign the EPA visitor log. All visitor materials will be processed through an X-ray machine as well. Visitors will be provided a badge that must be visible at all times